

## **FORMULATING CHANGE MANAGEMENT PROGRAM TO SUPPORT ERP IMPLEMENTATION AT WEAPONRY DIVISION, PT. PINDAD**

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*Abstract—PT Pindad as one of the State Owned Enterprises in Indonesia, manufacturing the defense and security equipment recently conducting change in their business system by implementing Enterprise Resource Planning in the Weaponry Division. To support the implementation of ERP, it should be accompanied by good change management program. However current change management program seems to ignore the implementation stages features in Kotter 8-Steps. Anticipating this condition, the author suggesting Kotter 8-Steps as a basic framework of research. The findings from FGD and in-depth interview shows that Step-3: Creating a Vision, Steps-4: Communicating Vision for Buy-in and Step-5: Empowering Action had not been done systematically causing the possibility of failure looming large. To support the analysis, STAR Model of organization, Strategy Map, and DICE Framework were being used to fill the void on the Kotter Program. However, PT Pindad had not done Kotter's Step-6 to Step-8 because the change management process was still in the preliminary phase.*

*Keywords: PT. Pindad, change management, strategy map, STAR model organizational design, DICE framework*

### **I. INTRODUCTION**

PT Pindad is the only company engaged in the defense and security equipment manufacturing industry, in which produces the Main Equipment Weapon System in Indonesia. PT Pindad production is always be fluctuated every year. In 2004, Indonesia' Ministry of Defense is given a priority by the government to complement their defense equipment by ordering additional purchase to PT Pindad, that resulted on the increase of sales for military product at PT Pindad. But in the contrary, the following year in 2005, the issue of this conflict is diminished, the shifting priorities of procurement of military products in the Ministry of Defense to PT Pindad also decreased drastically. In 2006 and 2007, the sales of military products started to grow again. Another reason why the amount of production for defense equipment and military products can't be predicted each year is because of monopsony market structure (80% of sales goes to the Army). The sales and production in PT Pindad will have strong correlation with the policies of its main customers, in this case is Indonesian Armed Forces (RJPP, 2009-2013).

Anticipating these situation, PT Pindad want to improve their business process and to achieve better result as conducted in the corporate strategy by implementing Enterprise Resource Planning (ERP) in one of their core business unit at Weaponry Division. The implementation of ERP is targeted to boost the overall performance in PT Pindad. The aim was mainly because the business process will become standardize and integrated among business unit. Standardization and integration are the crucial factors for PT Pindad to achieve their mission and to support corporate strategy.

ERP will links all areas and functions of a company including order management, manufacturing, human resources, financial systems, and distribution with external suppliers and customers into a tightly integrated system with shared data and visibility. Potential benefits include drastic declines in inventory, breakthrough reductions in working capital, abundant information about customer wants and needs, along with the ability to view and manage the extended enterprise of suppliers, alliances, and customers as an integrated whole (Escalle et al., 1999).

Introducing ERP in a corporation will be categorized as introducing a radical change. Statistically, the introduction of radical changes shown that the percentage of failures are more likely to happen compare to the successful implementation. Therefore, introducing ERP will need to be lead and managed thoroughly in order to minimize the impact of failure.

### **II. BUSINESS ISSUE EXPLORATION**

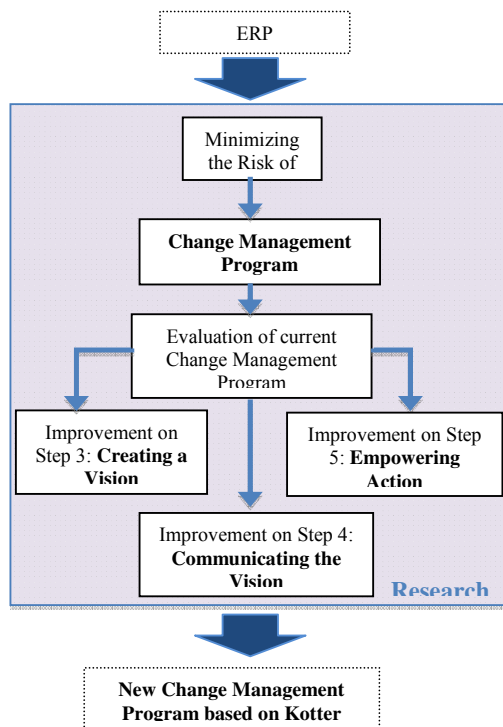
#### **A. Problem Formulation**

According to Hawking (2004) many companies struggle during the implementation phase due to the underestimation of the complexity and the lack of experience for the change process. Schneider (1999) also reported that ERP projects often experience high costs, and that about half of all ERP projects fail to achieve promised benefits. This result mainly occurs because the managers significantly underestimate the efforts involved in managing change. ERP implementation also should be supported by good change management program to be succeeding.

Based on the situation the previously described above, the implementation of ERP become major concern for PT Pindad, not just because the size of project but also the risk that need to be absorbed. The complexity of the problems will be explained from problems formulations below:

1. How is the progress of current change management program in PT Pindad
2. Is current change management program could comply with Kotter 8-Steps Change Management Program.
3. Step by step of Kotter 8-Steps Change Management Program will be analyzed thoroughly. The author will make a suggestion if there is a missing step in the implementation using FGD and in-depth interview mechanism.
4. What Model or Framework can be used to complete the analysis during the evaluation of Kotter 8-Steps Change Management Program.

### B. Conceptual Framework



The research will be made as the following steps:

- a) The conceptual framework will be used as a research reference
- b) Study literature to strengthen the analysis
- c) Determining methods and instruments to gather and to collect data and sources for analysis
- d) Processing collected data and sources through method that have been determined on the step b)
- e) Kotter 8-Steps Change Management Program will be used as a base of evaluation for the current program at PT Pindad
- f) Determining which steps in Kotter 8-Steps Change Management Program hasn't been done

- g) Complete Kotter 8-Steps Change Management Program through Focus Group Discussion and in-depth interview discussion
- h) Recommendation for PT Pindad in the form of modification Kotter 8-Steps Change Management Program

In this research, there are some restrictions to keep the consistency of the author's own purposes, which are:

- a. The object of this research is PT Pindad, particularly in the Weaponry Division.
- b. Interview and data collection are being held during preliminary phase of ERP implementation, which is: January-February 2012.
- c. Selected respondents and sources are employees of PT Pindad and team that responsible for ERP implementation.

### C. Method of Data Collection and Analysis

Method that being used to collect the data was Focused Group Discussions (FGD) and it was held in PT Pindad. The representatives were PT Pindad's employees, particularly that had direct relationship with ERP implementation, such as employee in the Weaponry Division and change management team. FGD was used to show different applications and development that were useful to personalize the ERP systems to better fit with the organization. Tadinen (2005) used FG to test the hypothesis aimed to investigate the importance of the soft factors across the ERP life cycle stages, asking users to identify in which stage(s) each soft factor is important.

Meanwhile, interview that being conducted in the PT Pindad was focused to analyze the condition of the organizational design to support the implementation of ERP later in the further phase. Interview conducted in the early stages when the ERP implementation was still in the planning stages so that the employees involved could learn future obstacles and had prepared it early. The conducted interview was to support the result from FGD. Because of that, the number of people who was interviewed was kept small so that the interviewee labored gained deeper insight. Many of the respondents in the interview come from change management team because those involved heavily in the implementation process. The interview was held during two-months period (January-February 2012). At that time, the ERP implementation had just started and most of the employees in the adaptation mode to the new system.

### D. Change Agenda

Based on the FGD and in-depth interview, it was found that the current change management program in PT Pindad misses some steps such as: Step 3 Get the Vision Right, Step 4 Communicating Vision for Buy-in, and Step 5 Empowering Action. However Step 6 - Step 8 haven't been done by PT Pindad because by the time this research was conducted, they were on the preliminary phase.

To fill the void on the Kotter 8-Steps Change Management Program, the researcher suggested using

STAR Model (for Step-3), Strategy Map (for Step-4) and DICE Framework (for Step-5).

a. Getting the Vision Using Star Model Organization Galbraith STAR Model as an organizational design framework is developed within this framework to understand what design policies and guidelines will be needed to align organizational decision-making and behavior (Galbraith, 2002), it can be described in the following five categories:

❖ *Strategy*

It is important in the organization design process because it establishes the criteria for choosing among alternative organizational forms (Galbraith, 2002). In PT Pindad, current situation show that strategy has not been implemented through all level.

❖ *Structure*

Before the implementation of ERP, each employee doing specific jobs and assignment. PT Pindad like many other State Owned Enterprises is known for beureucracy and protocols.

❖ *Processes*

The flow of information and decision processes across the proposed organization's structure. Current process in PT Pindad show complicated process, which each process need to be finished first before continue to the next level.

❖ *People*

Influence and define employee's mindsets and skills through recruitment, promotion, rotation, training and development. It also build the organizational capabilities to execute the strategic directions.

❖ *Rewards*

The purpose of the reward system is to align the goals of the employee with the goals of the organization to provide motivation and incentive for the completion of the strategic direction. The organization's reward system defines policies regulating salaries, promotions, bonuses, profit sharing, stock options, and so forth

b. Communicating the Vision for Buy-in Using Strategy Map

Strategy Map can be used to communicate the vision and strategy to the employee. Kaplan (2004) described companies will start developing or reaffirming their mission, values and vision. Then, consider the external and internal forces impinging on the company's strategy. There are two purposes for well-defined mission statement: a) should describe the fundamental purpose of the entity, especially to customers and clients; and b) should inform executives and employees about the overall goal they have come together to pursue. The values of company prescribe its attitude, behavior and character. Then the case of vision, it should be market oriented and express how the enterprise wants to be perceived by the world. There are steps that must be followed if the vision can be transform into strategy:

Strategy Development Process	Barriers
<i>Clarify Mission Values and Vision</i>	
Affirm high level guide-lines about organizational purpose and conduct	The vision is frequently described in terms not conducive to execution
<i>Conduct Strategic Analysis</i>	
Identify, through structure analysis, the events, forces, and experiences that impact and modify strategy	Analysis is frequently focused on outcomes and not the drivers of strategy
<i>Formulate the Strategy</i>	
Define where and how the organization will compete	There is a myriad of possible methodologies. There is no consensus which approaches to use in which circumstances

c. Empowering Action from Employee Using DICE Framework

Many believed that change management has strong relationship on "soft issues" such as culture, leadership, and motivation. Such elements are important for success, but managing these aspects alone is not sufficient to implement transformation projects. Soft factors do not directly influence the outcomes of many change programs (Sirkin et. al., 2005). To find out about employee readiness facing the change, DICE Framework was used as a tool to analyze.

The DICE acronym represents the common denominators that were found, which are:

- **Duration (D)**– length of time between project reviews
- **Integrity (I)**– extent to which the organization can rely upon the project team to execute the project successfully
- **Commitment**– ensuring that appropriate levels of top management (**C1**) and commitment to change of employee affected by change implementation (**C2**) are in place
- **Effort (E)**– estimated amount of time those making the change will have to spend over and above their day-to-day jobs

These variables are scored in a 1 to 4 point range and then plugged into a formula:

$$DICE = D + 2I + 2C_1 + C_2 + E$$

The result for DICE Framework is categorized into three categories: a) **Win Zone** (range 7-13): the project is very likely to succeed; b) **Worry Zone** (range 14-17): risks to the project's success are rising, particularly as the score approaches 17; c) **Woe Zone** (range 18-28): the project is extremely risky. If a project scores over 17 and under 19 points, the risks to the success

are very high, beyond 19, the project is unlikely to succeed.

### III. BUSINESS SOLUTION

Based on the Business Issue Exploration, current program that being implemented in PT Pindad basically done the similar steps with Kotter 8-Steps Change Management Program. However in the Step-3, Step-4 and Step-5 still miss some of the important element. In this Business Solution, those missing elements will be completed with proposed tools and business solution

#### A. *Creating the Vision based on STAR Model Analysis*

Basically creating a vision is almost similar with creating shared values. First of all, the organization is being modeled by STAR Model, then it was being described the difference among strategy, process, structure, people and reward. Each element in the Star Model will undergo changes. On this sub-chapter it will be specified every changes that occur, starting from existing form in PT Pindad and the change that is needed for the implementation of ERP so that it can goes well.

Existing Condition	Proposition to Support ERP
<b>Strategy</b>	
- Rely solely on the defence and equipment manufacture's product	- Improving production capacity and maintaining good relationship with supplier
- Consolidation among core business function	- Improve customer satisfaction level and attract new customer
- Initiating new business development	- Improving total revenue and overall production
- Building strategic alliance	- Emphasizing teamwork, improvement and leadership in all level
<b>Process</b>	
- Too complicated with dependency from production department	- Can be breakdown into separate modules, simultaneously
- Have to be finished in each process	- Integrated system and can be accessed real time to simplify the business process
<b>Structure</b>	
- Each employee doing their specific assignment	- Employee has many skills, and some of them involved heavily in change management process
- Bureaucracy and full of protocols	- Coordinative, cooperative and new defining roles
<b>People</b>	
- Talents are acquired through conventional recruitment system	- Produce the talent that is required by the strategy and structure of the organization
	- Generating the skills and

Existing Condition	Proposition to Support ERP
	mind-sets to implement the company's chosen direction.
<b>Reward</b>	
- Reward and compensation is based on employee's position only	- Reward and compensation will be based on people's task
	- Additional reward for small win and employee who support the success of implementation

In the end those shared values will be used to bind five elements in STAR Model that have been discussed before. The shared values that being raised to support the implementation as follows:

#### ▪ *Values Drive Commitment*

Commitment is not only derived from the employee alone but rather also comes from its leaders. The implementation of ERP is rather complicated because it involves many department and the expected results aren't visible directly. Weaponry Division as a central figure in ERP implementation can become a good example because PT Pindad's production evolves around this division. Sense of pride and dignity grows from employees who know that part of PT Pindad has managed to produce high quality goods and services.

#### ▪ *Discipline, Trust and Respect*

Although the implementation of the ERP will change the business process and management system in the company, but employees who receive the immediate impact in the environment are still limited to Weaponry Division only. That is why the implementation discipline and trust in another division absolutely required.

#### ▪ *Strive to be the Best Along with Integrity*

Tradition in order to produce the best products had long been existed in every employee at PT Pindad. PT Pindad's core competency in producing weapons make them accustomed to detail and always compete directly with another company's which already establish themselves as world-class weapon maker.

#### ▪ *Knowledge Sharing and Teamwork*

Before the implementation of ERP, knowledge from each staffs usually being keep by certain people. PT Pindad as a weapons manufacturer and defense systems provider in Indonesia makes the process of information dissemination is very limited. Only certain people who mastered the knowledge and it can't be shared by carelessly. Nevertheless, after the implementation, this condition can't be neglected.

The following is the new vision for PT Pindad based on the future consideration

**"To Become Respected Weaponry Company In The World"**

### B. *Communicating the Future Direction using Strategy Map*

One-way to communicating the future direction of PT Pindad is by mapped out the strategy through Strategy Map. By implementing Strategy Map, employees will receive clear image and description about company's direction. Strategy Map also described four perspectives, which has clear correlation among them.

Process	Strategy
<b>Streamlined Internal Business Process</b>	
Develop and Sustain Supplier Relationship	- Restructuring Distribution and Inventory System - Close Working Relationship with Vendor
Produce Products and Service	- Invention and Innovation from Sustainable R&D
Distribute and Deliver Products and Service to Customer	- Integrated Order and Delivery System
Manage Risk	- Collaborative Risk Management
<b>Fulfilled Customer Needs</b>	
Competitive Price	- Providing Competitive Price - Attract and Retain More Customers
Improved Quality	- Continuous Improving Products and Service
Speedy and Timely Purchase	- Reliable and Trustable Partner
Excellent Choice and Selection	- Provide Complete Sales Service - Customer Satisfaction"
<b>Meet the Financial Target</b>	
Increase in Shareholder Value	- Increase in Revenue - Increase in Overall Productivity
<b>Required Learning and Training Innovations</b>	
Human Capital	- Intensive Training Program - Elaborative Recruitment System
Technology and Information Capital	- Transformational Applications System

Communicating future direction of PT Pindad will be done using Strategy Map. This method is entirely new because "Strategy Map" mostly used by management in the framework level. To summarize Strategy Map that being used the way to conduct Communicating Vision with the Employees can be seen from the Appendix.

### C. *DICE Framework to Know Employee Readiness for Empowering Action*

Changes that happened in PT Pindad can't be done entirely through 'soft factors' such as culture, leadership and communication techniques only. There is a way to measure the process so that the advancement of implementation can be detected. The

easy way to gauge the progress of the change that occurred in the PT Pindad is to use DICE framework.

Basically good change management program should adopt the following criteria: the project should be short term, led by a skilled leader, combination of motivated and cohesive team, championed by the top management team, implemented in a department receptive to change. If all the criteria are adopted, then the project is likely will succeed.

Based on the results of DICE framework calculation (it can be seen on Appendix 1) indicates the implementation of ERP in PT Pindad belongs to the WIN category, in the sense that the process of change will be successful. It means that empowering action to employees can be done.

The improvements are done to increase the awareness of the employees so that the process of change can be run more smoothly and be accepted by all employees.

#### 1. **Duration (D)**

To improve the D score, reduce the time between key review milestones without compromising the overall on-time delivery of the project. The improvement that can be done as follow:

- Provide sufficient resources for - and commitment to - achievement of planned impacts, milestones, and KPI's, as detailed in agreement plans with the consultant.

#### 2. **Integrity (I)**

To improve the I score, establish a team that possesses sufficient technical skills, is led by a capable team leader, and demonstrates strong commitment to achieving a clear set of objectives. The improvement that can be done in PT Pindad from the "integrity" such as:

- Strong support to implementation team, started with selection, development, and management process.
- Ensure that high-caliber project leaders and team members are appointed and have sufficient time to devote to the effort.

#### 3. **Top Management Commitment (C1)**

To improve the C1 score, top management's should increase demonstrated commitment to both the overall program and specific projects. Experience shows that senior managers often overestimate the organization's perception of their own true commitment to the change effort. Few of the few programs that can be use to improve score from C1 point of view, which are:

- Alert senior management to the importance of their leadership role
- Provide feedback on perceptions of leadership visibility, commitment, and communication
- Ensure that senior managers are aligned, clear on priorities, and demonstrating leadership support

#### 4. **Local Commitment (C2)**

To improve the C2 score, enhance communication with, and the understanding of, local staff. This goal is best achieved by taking coordinated action on several fronts. Ways to improve local commitment score are by doing the following things:

- Proactively identify and engage key stakeholders
- Provide expertise and advice related to stakeholder engagement and operational involvement
- Ensure that sufficient effort and discipline is applied in developing and executing the communications plan
- Conduct an effective communication program

#### 5. Effort

To improve the E score, reduce the amount of effort that local staff must dedicate to supporting existing business requirements while also participating in the transitioning phase of project implementation. Few alternatives to improve score in "Effort" category such as:

- Ensure that project priorities are driven by strategy
- Ensure that implementation time frames are realistic and achievable
- Define resources required during the transition
- Rationalize the number of projects if necessary
- Allocate sufficient transition resources and/or reallocate work as required.

#### IV. CONCLUSION

The conclusions that can be drawn from the implementations of change management program to support the implementation of ERP are:

**First**, The role of Enterprise Resource Planning in altering business strategy can be seen clearly. It will change the way PT Pindad conducting their manufacturing process and in the end it will change the perspective of financial, customer and learning and growth.

**Second**, even though PT Pindad already has their change management program but it didn't run sequentially based on the Kotter 8-Steps Management Program so that skeptically will fail during the implementation.

**Third**, the current vision and shared values in PT Pindad were not enough to support the implementation of ERP. STAR Model can create and produce suitable vision and shared values through "before and after comparison" during ERP implementation in strategy, structure, process, people and reward section.

**Fourth**, the way the management communicating with the employee was using conventional program. It will be better if the management conducting the communication program through Strategy Map. It was new method that being proposed by the author to embedded the essence of change to all employees.

**Fifth**, based on the calculation using DICE framework, PT Pindad's management and employees are ready to apply change management in related with ERP implementation. It means that empowering action can be done with the support from management.

**Sixth**, Step-6 through Steps-8 from Kotter 8-Steps Change Management Program can't be analyzed yet because the implementation in PT Pindad hasn't rolled to the phase yet.

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Appendix 1  
DICE Framework Calculation

Elements	PT Pindad's Valuation	Score
<b>Duration (D)</b>		
- Time between project reviews is between 2 and 4 months	2	2
<b>Integrity (I)</b>		
- Project team leader is not a highly capable	0	2
- Project team leader is not respected by peers	0	
- Team members lack the skills and motivation to complete the project	1	
- Less than 50% of the team members' time is assigned to the project	1	
<b>Commitment (C<sub>1</sub>) (Top Management)</b>		
- Implementation Group has, through actions and words, clearly communicated the need for change	1	1
<b>Commitment (C<sub>2</sub>) (Employee)</b>		
- Low level employee leads are willing to take on the change initiative	2	2
<b>Effort (E)</b>		
- Project requires between 10% and 20% extra work	3	3
<b>Overall Score (D + 2I + 2C<sub>1</sub> + C<sub>2</sub> + E)</b>		13 (WIN)

Appendix 2  
Proposed Strategy Map for PT Pindad

